PERSONAL INFORMATION

Giacomo Palmieri

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WORK EXPERIENCE

Nov 2019 - present — Associate Professor

Polytechnic University of Marche, Ancona, Italy

Associate professor in Machine Mechanics (ING-IND/13)

Nov 2016 – Oct 2019 — Assistant Professor

Polytechnic University of Marche, Ancona, Italy

Assistant professor in Machine Mechanics (ING-IND/13)

Jul 206 – Oct 2016 — Post-doc

Polytechnic University of Marche, Ancona, Italy

Research topic: Mechatronic and robotic devices for automatic disassembly

Mar 2010 – Mar 2016 — Assistant Professor

e-Campus University, Novedrate (CO), Italy

Assistant professor in Machine Mechanics (ING-IND/13)

Nov 2009 – Feb 2010 — Post-doc

Polytechnic University of Marche, Ancona, Italy

Research topic: Integrated design of machines and mechatronic devices for automation

Apr 2006 – Oct 2006 — Internship

Mecaer America Inc. - Montreal, Quebec (CA)

Junior engineer - Mechanical design of landing gears for helicopters

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EDUCATION AND TRAINING

Nov 2006 – Oct 2009

PhD in Mechanical Engineering

Polytechnic University of Marche, Ancona, Italy

Thesis Title: Study and Characterization of Constitutive and Rheological Models for Elastomers by Optical Methods

Mar 2006

Master's Degree in Mechanical Engineering

Polytechnic University of Marche, Ancona, Italy

PERSONAL SKILLS

Mother tongue(s): Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
Common European Framework of Reference for Languages

Communication skills

- good communication skills gained through my experience as speaker at international conferences

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Independent	Proficient	Independent	Independent	Independent

Levels: Basic user - Independent user - Proficient user
Digital competences - Self-assessment grid

- good command of office suite
- good command of the following software for engineering:
  - CAD/CAM (CATIA, Solid Edge)
  - Multi-body (ADAMS, LMS Virtual.Lab, OpenSim, Working Model)
  - FEM (ANSYS, ABAQUS)
  - Acquisition and control systems (dSPACE, ControlDesk, LAbView)
  - Numerical computing and programming language (Matlab/Simulink, Maple)
  - e-learning (Moodle, Teams)

Driving licence: A, B

ADDITIONAL INFORMATION

Summary of scientific production

The research activity covered aspects of engineering related to robotics, applied and experimental mechanics and biomechanics.

Author of 95 publications, including 28 papers on peer-reviewed international journals and 2 textbooks.

Bibliometric indices (Scopus 08/06/2020):

- Number of publications: 67
- Number of citations: 686
- h-index: 12

Patents

- P. Ciarmela, M.G. Ceravolo, M. Castellucci, S. Fioretti, M.C. Palpacelli, G. Palmieri, G. Ippoliti, G. Orlando (2015). Apparecchiatura per l'allenamento dell'equilibrio. 0001428119, Università Politecnica delle Marche
- M. Callegari, M.C. Palpacelli, G. Palmieri, L. Carbonari (2013). Robot a cinematica parallela di tipo riconfigurabile. 0001416031, Università Politecnica delle Marche

Textbooks

- G. Legnani, G. Palmieri, I. Fassi (2018). Introduzione alla biomeccanica dello sport. Città Studi, ISBN: 9788825174205
- G. Legnani, G. Palmieri (2016). Fondamenti di Meccanica e Biomeccanica del Movimento. Città Studi, ISBN: 9788825174076

Projects

Coordination:

- Strategic University Project 2017, Polytechnic University of Marche - Cycling Dynamics Lab - Design of a test bench for the study of cycling biomechanics.

Participation:

- E mobots - electric MObility roBOT & Shuttle; Italian National Strategy for Smart Specialization 2019, co-funded by MISE.
- Collaborative Platform 2018, co-funded by Marche Region; Giacomo Palmieri acts as operative director of iLabs Laboratory (collaborative robotics and Industry 4.0 technologies)
- EU project Lab4Dive, in the programme «Implementation of the European Maritime and Fisheries Fund Work Programme 2016 – Blue Labs: innovative solutions for maritime challenges».
- POR MARCHE FESR 2014-2020 – RAEEcovery – Technological solutions for an efficient and sustainable WEEE chain.P
- RIN 2009 – Micro Manipulation & Assembly (MM&A); research units: Università degli studi di Brescia, Università Politecnica delle Marche, Università degli Studi di Bergamo, ITIA-CNR Milano.

Memberships

- Member of IFToMM Italy (International Federation for the Promotion of Mechanism and Machine Science).
- Guest Editor of Robotics (MDPI)

Honours and awards

- Crossley Best Paper Award 2017 conferred by Elsevier for the paper: Carbonari, L., Callegari, M., Palmieri, G., Palpacelli, M.-C., A new class of reconfigurable parallel kinematic machines, (2014) Mechanism and Machine Theory, 79, pp. 173-183.
- "A. Capocaccia" prize 2009 for young researchers conferred by the Italian Association for Stress Analysis (AIAS) for the paper: G. Palmieri, M. Rossi, G. Chiappini, M. Sasso, "Caratterizzazione di elastomeri attraverso l'applicazione della tecnica di correlazione digitale di immagini su prove di tensione planare", XXXVII AIAS Conference, 10-13 September 2008, Rome, Italy.

Relevant Publications

1. Carbonari, L., Costa, D., Palmieri, G., Palpacelli, M.-C., Reconfigurability analysis of a class of parallel kinematics machines, (2019) Journal of Mechanisms and Robotics, 11 (2), art. no. 021002-1.
2. Marconi, M., Palmieri, G., Callegari, M., Germani, M., Feasibility Study and Design of an Automatic System for Electronic Components Disassembly, (2019) Journal of Manufacturing Science and Engineering, Transactions of the ASME, 141 (2), art. no. 021011.
3. Bussola, R., Legnani, G., Callegari, M., Palmieri, G., Palpacelli, M.-C., Simulation assessment of the performance of a redundant SCARA, (2019) Robotics, 8 (2), art. no. 45.
4. Palpacelli, M., Carbonari, L., Palmieri, G., Callegari, M., Design of a lockable spherical joint for a reconfigurable 3-URU parallel platform, (2018) Robotics, 7 (3), art. no. 42.

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5. Palpacelli, M., Palmieri, G., Carbonari, L., Corinaldi, D., Sensitivity Analysis and Model Validation of a 2-DoF Mini Spherical Robot, (2018) Journal of Intelligent and Robotic Systems: Theory and Applications, 91 (2), pp. 155-163.
6. Costa, D., Palmieri, G., Palpacelli, M.-C., Panebianco, L., Scaradozzi, D., Design of a Bio-Inspired Autonomous Underwater Robot, (2018) Journal of Intelligent and Robotic Systems: Theory and Applications, 91 (2), pp. 181-192.
7. Palmieri, G., Palpacelli, M.-C., Carbonari, L., Callegari, M., Vision-based kinematic calibration of a small-scale spherical parallel kinematic machine, (2018) Robotics and Computer-Integrated Manufacturing, 49, pp. 162-169.
8. Scaradozzi, D., Palmieri, G., Costa, D., Pinelli, A., BCF swimming locomotion for autonomous underwater robots: a review and a novel solution to improve control and efficiency, (2017) Ocean Engineering, 130, pp. 437-453.
9. Scaradozzi, D., Palmieri, G., Costa, D., Zingaretti, S., Panebianco, L., Ciuccoli, N., Pinelli, A., Callegari, M., UNIVPM BRAVe: A hybrid propulsion underwater research vehicle, (2017) International Journal of Automation Technology, 11 (3), pp. 404-414.
10. Palpacelli, M.-C., Carbonari, L., Palmieri, G., Details on the Design of a Lockable Spherical Joint for Robotic Applications, (2016) Journal of Intelligent and Robotic Systems: Theory and Applications, 81 (2), pp. 169-179.
11. Palmieri, G., Callegari, M., Fioretti, S., Analytical and multibody modeling for the power analysis of standing jumps, (2015) Computer Methods in Biomechanics and Biomedical Engineering, 18 (14), pp. 1564-1573.
12. Palpacelli, M.-C., Carbonari, L., Palmieri, G., Callegari, M., Analysis and Design of a Reconfigurable 3-DoF Parallel Manipulator for Multimodal Tasks, (2015) IEEE/ASME Transactions on Mechatronics, 20 (4), art. no. 6960887, pp. 1975-1985.
13. Palmieri, G., Callegari, M., Carbonari, L., Palpacelli, M.C., Mechanical design of a mini pointing device for a robotic assembly cell, (2015) Meccanica, 50 (7), pp. 1895-1908.
14. Palmieri, G., On the positioning error of a 2-DOF spherical parallel wrist with flexible links and joints - An FEM approach, (2015) Mechanical Sciences, 6 (1), pp. 9-14.
15. Palpacelli, M., Callegari, M., Carbonari, L., Palmieri, G., Theoretical and experimental analysis of a hybrid industrial robot used for friction stir welding, (2015) International Journal of Mechatronics and Manufacturing Systems, 8 (5-6), pp. 258-275.
16. Carbonari, L., Callegari, M., Palmieri, G., Palpacelli, M.-C., Analysis of kinematics and reconfigurability of a spherical parallel manipulator, (2014) IEEE Transactions on Robotics, 30 (6), art. no. 6912002, pp. 1541-1547.
17. Palpacelli, M., Palmieri, G., Carbonari, L., Callegari, M., Experimental identification of the static model of the HPKM Tricept industrial robot, (2014) Advanced Robotics, 28 (19), pp. 1291-1304.
18. Carbonari, L., Callegari, M., Palmieri, G., Palpacelli, M.-C., A new class of reconfigurable parallel kinematic machines, (2014) Mechanism and Machine Theory, 79, pp. 173-183.
19. Palmieri, G., Martarelli, M., Palpacelli, M.C., Carbonari, L., Configuration-dependent modal analysis of a Cartesian parallel kinematics manipulator: Numerical modeling and experimental validation, (2014) Meccanica, 49 (4), pp. 961-972.
20. Callegari, M., Carbonari, L., Palmieri, G., Palpacelli, M.-C., Tina, D., Position control of a 3-CPU spherical parallel manipulator, (2013) Journal of Control Science and Engineering, 2013, art. no. 136841.
21. Palmieri, G., Palpacelli, M.C., Callegari, M., Study of a fully compliant u-joint designed for minirobotics applications, (2012) Journal of Mechanical Design, Transactions of the ASME, 134 (11), art. no. 111003.
22. Palpacelli, M.-C., Palmieri, G., Callegari, M., A Redundantly Actuated 2-Degrees-of-Freedom Mini Pointing Device, (2012) Journal of Mechanisms and Robotics, 4 (3).
23. Palmieri, G., Palpacelli, M., Battistelli, M., Callegari, M., A comparison between position-based and image-based dynamic visual servoings in the control of a translating parallel manipulator, (2012) Journal of Robotics, 2012, art. no. 103954.
24. Palmieri, G., Sasso, M., Chiappini, G., Amodio, D., Virtual fields method on planar tension tests for hyperelastic materials characterisation, (2011) Strain, 47 (SUPPL. 2), pp. 196-209.
25. Sasso, M., Palmieri, G., Amodio, D., Application of fractional derivative models in linear viscoelastic problems, (2011) Mechanics of Time-Dependent Materials, 15 (4), pp. 367-387.
26. Palmieri, G., Sasso, M., Chiappini, G., Amodio, D., Mullins effect characterization of elastomers by multi-axial cyclic tests and optical experimental methods, (2009) Mechanics of Materials, 41 (9), pp. 1059-1067.
27. Sasso, M., Chiappini, G., Palmieri, G., Amodio, D., Superimposed fringe projection for three-dimensional shape acquisition by image analysis, (2009) Applied Optics, 48 (13), pp. 2410-2420.
28. Sasso, M., Palmieri, G., Chiappini, G., Amodio, D., Characterization of hyperelastic rubber-like materials by biaxial and uniaxial stretching tests based on optical methods, (2008) Polymer Testing, 27 (8), pp. 995-1004.

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